In the Claims:

Please amend claim 1 as follows:

1. (Currently amended) A liquid crystal display comprising:

two substrates facing each other with a predetermined gap therebetween;

an electrode formed on each ~~of surfaces~~surface of the two substrates facing each other;

vertical alignment films formed on the electrodes;

liquid crystals having negative dielectric anisotropy sealed in the gap; and

a singular point control portion for performing control such that a singular point of a director of the liquid crystals is formed in a predetermined position when a voltage is applied between the electrodes.

2. (Original) A liquid crystal display according to Claim 1, further comprising two polarizers whose polarizing axes are orthogonal to each other provided on an outer surface of each of the two substrates, wherein the singular point control portion forms the singular point when a voltage is applied so as to increase the ratio of the area of a liquid crystal domain in which the direction of longitudinal axes of molecules of the liquid crystals in the vicinity of the singular point control portion is substantially at an angle of 45 deg. to the polarizing axes of the polarizers as viewed in the normal direction of the surfaces of the substrates.

3. (Original) A liquid crystal according to Claim 2, wherein the singular point control portion forms a first singular point where the longitudinal axes of the liquid crystal molecules are directed toward substantially the same point and a second singular point where a part of the liquid crystal molecules are directed in a different direction adjacent to each other and controls the alignment of the liquid crystals such that the longitudinal axes of the liquid crystal molecules in liquid crystal domains located adjacent to each other on both sides of an imaginary straight line connecting the adjacent first and second singular points are substantially at 45 deg. to the imaginary straight line when a voltage is applied.

4. (Original) A liquid crystal display according to Claim 3, wherein one dark line is formed substantially along the imaginary straight line between a plurality of the singular point control portions when a voltage is applied.

5. (Original) A liquid crystal display according to Claim 4, wherein the singular point control portion suppresses any expansion of the width of the dark line by causing distortion of a distribution of an electric field in a direction that is at least orthogonal to the imaginary straight line between the singular point control portions when a voltage is applied.

6. (Original) A liquid crystal display according to Claim 1, further comprising a protrusion formed on at least either of the electrodes at the singular point control portions and/or along an imaginary straight line between a plurality of the singular points adjacent to each other, wherein liquid crystal molecules on the protrusion are inclined substantially about the singular points when a voltage is applied.

7. (Original) A liquid crystal display according to Claim 1, further comprising a non-electrode region where no electrode material is formed, the non-electrode region being provided in a surface of at least either of the electrodes at the singular point control portions and/or along the imaginary straight line between a plurality of the singular points adjacent to each other, wherein liquid crystal molecules on the non-electrode region are inclined substantially about the singular point when a voltage is applied.

8. (Original) Liquid crystal display according to Claim 1, wherein an alignment regulating member is provided substantially in parallel with the imaginary straight line connecting the singular points adjacent to each other and wherein the alignment of the liquid crystals is controlled such that the direction of longitudinal axes of the liquid crystal molecules in liquid crystal domains located adjacent to each other on both sides of the alignment regulating member are substantially at 90 deg. to the imaginary straight line when a voltage is applied.

9. (Original) Liquid crystal display comprising:

two substrates facing each other with a predetermined gap therebetween;

a pixel electrode formed on either of the substrates;

an opposite electrode formed on the other substrate in a face-to-face relationship with the pixel electrode;

vertical alignment films formed on the pixel electrode and the opposite electrode;

liquid crystals having negative dielectric anisotropy sealed in the gap; and

a singular point control portion for performing control a singular point of a director of the liquid crystals in a predetermined position around the pixel electrode.

10. (Original) Liquid crystal display according to Claim 9, wherein the singular point control portion forms the singular point on a bus line arranged around the pixel electrode.

11. (Original) Liquid crystal display according to Claim 9, wherein the singular point control portion forms the singular point in a gap between the pixel electrode and the bus line.

12. (Original) Liquid crystal display according to Claim 11, wherein the singular point control portion forms a first singular point where the direction of longitudinal axes of liquid crystal molecules are substantially directed toward the same point and a second singular point where a part of liquid crystal molecules are directed in a different direction.

REMARKS

Claim 1 has been amended in a cosmetic matter unrelated to patentability, without narrowing the scope of the claim, and claim 2 has been amended to better define the invention.

Independent claims 1 and 9 stand rejected under § 102(e) on the basis of Yamada et al. Applicants traverse this rejection because Yamada et al. do not disclose (or suggest) a liquid crystal display having the singular point control portion of the present invention.

In the present invention, control over the direction of alignment of liquid crystal molecules is achieved by controlling the positions where singular points are formed, and distortion of electric fields is used for controlling the positions where singular points are formed (see page 20, lines 24-30 of the present specification).

On the contrary, column 12, lines 47-62 of Yamada et al. disclose the following:

> "When a voltage is applied, as shown in Fig. 3A, the orientation directions of the liquid crystal molecules are controlled by the column structures 51 as the orientation regulating elements so that they tend to orient in parallel with the substrates 50 and 60, i.e., they are closer to the direction vertical to the side faces of the column structures 51. Since the column structures 51 which are formed to be at least partially in contact with the upper and lower substrates 50 and 60 can be arranged to control the size and the position of liquid crystal domains, a sufficiently large number of liquid crystal domains can be formed in each pixel corresponding to the arrangement of the column structures 51."

As described above, numeral 51 of Yamada et al. is not the singular point control portion, but rather are column structures that act as orientation regulating elements. The positions where singular points are formed cannot be controlled by controlling the orientation directions of the liquid crystal molecules described in Yamada et al. Since the column structures 51 are formed to be at least partly in contact with the upper and lower substrates 50 and 60, there is no liquid crystal material between the column structures 51 and the upper and lower substrates 50 and 60. Therefore, a singular point is not formed on the column structures 51. That is, the column structures 51 may control the orientation directions of the liquid crystal molecules, but they cannot control the position of singular points.

The basic idea of the present invention in which the direction of alignment of liquid crystal molecules is controlled by fixing the positions of the singular points of the director of the liquid crystals is quite different from the idea of Yamada et al., in which the orientation directions of the liquid crystal molecules are controlled by the column structures 51 as the orientation regulating elements.

Furthermore, there is no description with regard to the singular point the director of the liquid crystals in Yamada et al., and therefore no disclosure or suggestion of the present invention. Accordingly, withdrawal of the rejection of independent claims 1 and 9, and dependent claims 2-8 and 10-12, is respectfully requested.

For the foregoing reasons, applicants believe that this case is in condition for allowance, which is respectfully requested. The examiner should call applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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